

Work Order ID 85873

June 18-12 7:37:16 AM

\*85873\*

Page 1

Item ID: D212-664-201TRN

Accept

\*N900040100\*

Setup

Start

\*NS1\*

Revision ID:

Item Name: Crosstube Turning Detail

Stop

\*NS2\*

Start Date: 18/06/2012 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 02/07/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/06/18 Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr								
----------	--------------	--	--	--	--	--	--	--	--

D212-664-241	Rev D								
--------------	-------	--	--	--	--	--	--	--	--

100

0.00

\*100\*

MORI SEIKI CNC LATHE LARGE

1 φ KC 12-6-20

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA114

2-Turn first side as per Folio FA114

3-Blend transition lines only, \*\*do not sand whole tube\*\*;

FOLIO REV: AD

DWG REV: D

\*Use mill bastard file, brush file repeatedly with file card.

\*Do not use sandpaper coarser than 320 grit.

110

QC1- Inspect dimensions to dimension sheet

0.00

\*110\*

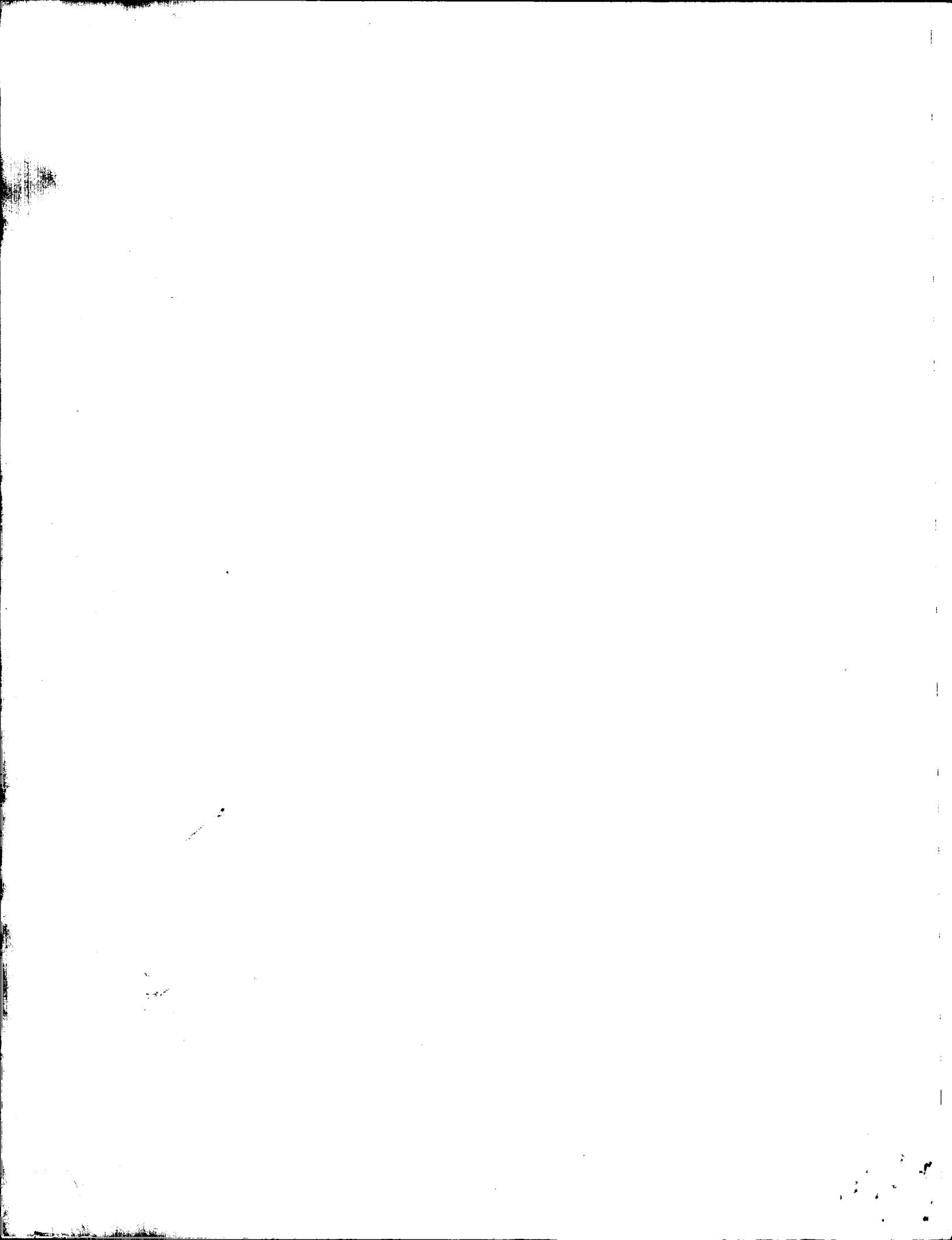
QC

Memo

0.00

Quality Control

1 φ KC 12-6-20



Work Order ID 85873

June-18-12 7:37:16 AM

\*85873\*

Page 2

Item ID: D212-664-201TRN

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Crosstube Turning Detail

Start Date: 18/06/2012 Start Qty: 1.00 \*1\*

Required Date: 02/07/2012 Req'd Qty: 1.00 \*1\*

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID  
120

\*120\*

Mori Seiki

Mori Seiki CNC Lathe Large

Operation  
Description

Set Up/  
Run Hours  
0.00

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

MORI SEIKI CNC LATHE LARGE

Memo

0.00

1-Turn second side as per Folio FA114

2-Blend transition lines only, \*\*do not sand whole tube\*\*:

\*Use mill bastard file, brush file repeatedly with file card.

\*Do not use sandpaper coarser than 320 grit.

FOLIO REV: A

DWG REV: D

3-Remove sand and plugs

4- scribe batch # and part # as per dwg

130

\*130\*

QC

Quality Control

QC1- Inspect dimensions to dimension sheet

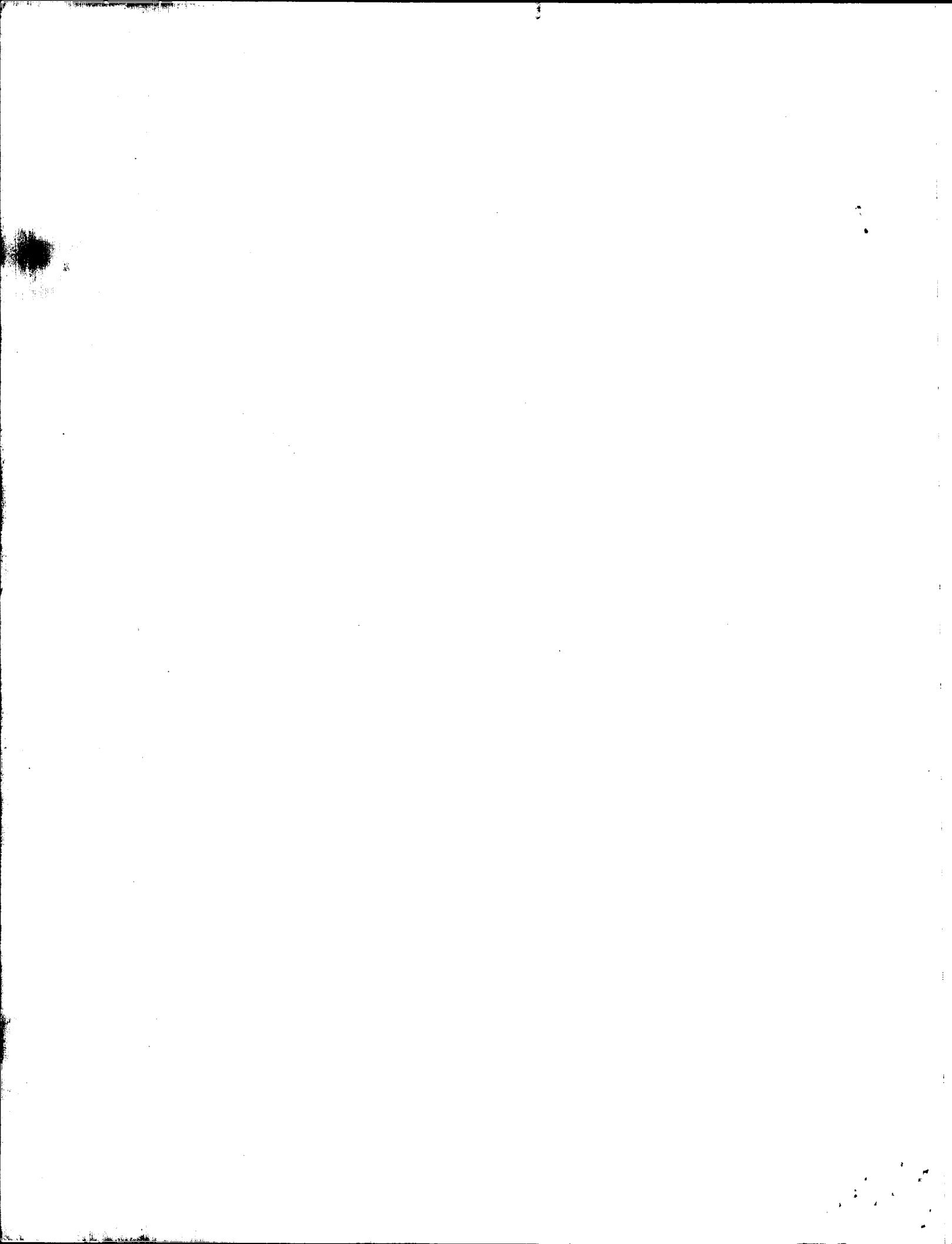
0.00

Memo

0.00

1 φ KC 12-6-20

1 φ KC 12-6-20



NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: ✓ Date: 12/07/09QA Closed: ✓ Date: 12/7/09

Work Order: <u>85873</u>	DISPOSITION	AGAINST DEPARTMENT/PROCESS					
Part No. <u>D212-664-201TRN</u>	Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input checked="" type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input checked="" type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> Other <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/>		
NCR No. <u>12-1559</u>							

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	12/06/22	130	1	PART WAS INSPECTED PER QSI-038 BUT WAS UNABLE TO READING DIMENSION REQUIRED ON INSPECTION SHEET FOR READING 4 ON FAI INSPECTION SHEET. POSSIBLE DIMENSIONS WERE PART OF RECEIVING REPORT	GP 12/6/22	Acceptable. READING 4 IS ON RAW MATERIAL & RAW MATERIAL IS GOOD	GP 12-6-28	GP 12/6/22	GP 12/6/22
Equip/Tooling									
Operator									
Material									
Offset/Setup									
Other									
Process									
Supplier									
Training	✓								
Unauthorized									

## FAULT CATEGORY

Landing Gear	Hardware	General
Bending Passes Below Min	Breaking <input type="checkbox"/>	Maintenance <input type="checkbox"/>
Centre Not Concentric to O/S	Missing <input type="checkbox"/>	Mislabeled <input type="checkbox"/>
Cracks <input type="checkbox"/>	Size/Length <input type="checkbox"/>	Off-Set <input type="checkbox"/>
Crushed/Crimp at Bending	Spinning <input type="checkbox"/>	Orientation Misread <input type="checkbox"/>
Inspection Strip in Tube	Threading <input type="checkbox"/>	Out of Calibration <input type="checkbox"/>
Other <input type="checkbox"/>	Wrong <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>
Positioned Wrong <input type="checkbox"/>	Drill Holes	Outside Dimensions <input type="checkbox"/>
Ripples on Inner Bend <input type="checkbox"/>	Misaligned <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>
Torque Waves in Extrusion <input type="checkbox"/>	Ovalized <input type="checkbox"/>	Part Lost <input type="checkbox"/>
Turning Sequence <input type="checkbox"/>	Over/Undersized <input type="checkbox"/>	Part Moved <input type="checkbox"/>
Wave/Twist in Tube <input type="checkbox"/>	Too Many <input type="checkbox"/>	Raw Material <input type="checkbox"/>

Work Order ID 85873

June-18-12 7:37:16 AM

\*85873\*

Page 3

Item ID: D212-664-201TRN

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Crosstube Turning Detail

Start Date: 18/06/2012 Start Qty: 1.00 \*1\*

Required Date: 02/07/2012 Req'd Qty: 1.00 \*1\*

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

140

\*140\*

QC

Quality Control

Operation  
Description

QC8- Inspect parts - second check

Set Up/  
Run Hours

0.00

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

*DKW*

12-6-25

145

\*145\*

Crosstubes

Crosstubes

Memo

0.00

*JW*

12-6-26

150

\*150\*

HandFXtube

Hand Finishing Crosstubes

Crosstubes Chemical Conversion

0.00

Memo

0.00

*Ph* *?*

~~So~~  
~~2012~~  
~~acid etch size of cross tube only~~

~~SEE WLD CHG ATTACHED~~

*JW* 12-6-27



NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: <u>85873</u>	DISPOSITION	AGAINST DEPARTMENT/PROCESS				
Part No. <u>D212-664-201TRN</u>	Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input checked="" type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>	
NCR No. _____						

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator	12/6/28	150	1	Acid etch tube following turning. PER OPS1005 4.1.1.	P 12/6/28		JW 12-6-28	BB 12-6-28	
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

## FAULT CATEGORY

Landing Gear		General									
Bending		Bend		Grain		Ovalized		Pressure/Forced			
Centre Not Concentric to O/S		BOM/Route		Hardware		Over/Under tolerance		Temperature/Cure			
Cracks		Broken/Damaged		Inspection Incomplete		Part Incorrect		Weld			
Crushed/Crimped.		Burrs		Instructions Incomplete/Unclear		Part Lost/Missing		Wrong Stock Pulled			
Cuffs		Contamination		Maintenance		Part Moved					
Heat Treat		Countersink		Mislabeled		Positioned Wrong					
Inspection Strip in Tube		Cut Too Short		Misread		Power Loss/Surge		Other			
Ripples in Bend		Drill Holes		Offset							
Torque Waves in Extrusion		Drawing		Out of Calibration							
Turning Sequence		Finish		Out of Sequence							
Wave/Twist in Tube		Folio		Outside Dimensions							

Work Order ID 85873

June-18-12 7:37:16 AM

\*85873\*

Page 4

Item ID: D212-664-201TRN

Accept

\*N900040100\*

Setup

Start

\*NS1\*

Revision ID:

Item Name: Crosstube Turning Detail

Stop

\*NS2\*

Start Date: 18/06/2012 Start Qty: 1.00 \*1\*

Cust Item ID:

Required Date: 02/07/2012 Req'd Qty: 1.00 \*1\*

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

160

\*160\*

QC

Quality Control

Operation  
Description

QC7-Inspect Chemical Conversion Coat

Memo

n/45

Set Up/  
Run Hours

0.00

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

170

\*170\*

Packaging

Packaging

Packaging

0.00

Memo

Identify and stock in kanban rack  
Location: L6

MO

12-6-27

180

\*180\*

QC

Quality Control

QC21- Final Inspection - Work Order Release

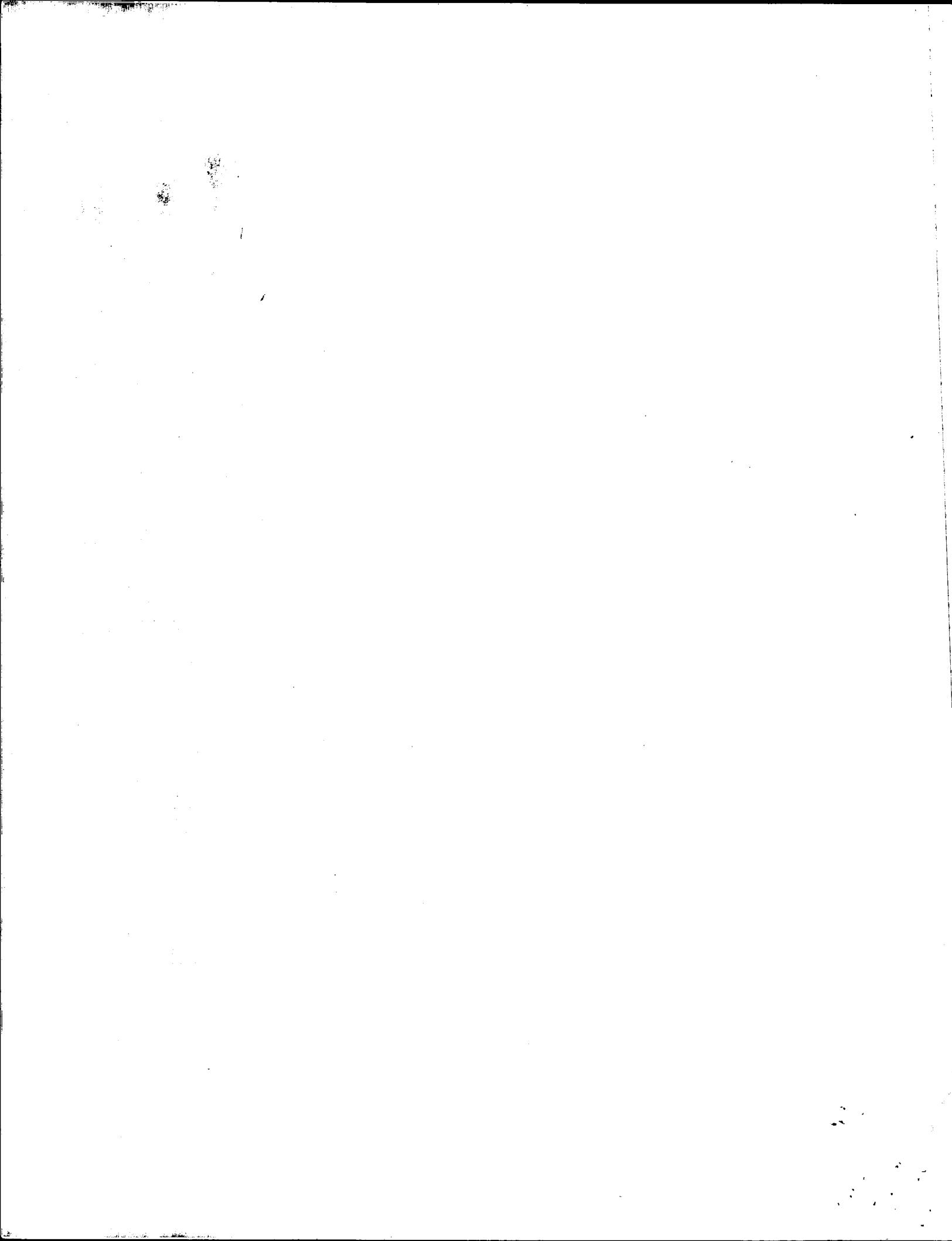
0.00

Memo

0.00

12/6/2012 12/6/2012

MF  
12-06-27



**Picklist Print**

June-18-12 7:37:21 AM

Work Order ID: 85873

Parent Item: D212-664-201TRN

Parent Item Name: Crosstube Turning Detail

**\*85873\***  
**\*D212-664-201TRN\***

Start Date: 18/06/2012

Required Date: 02/07/2012

Start Qty: 1.00

Required Qty: 1.00

**Comments:**  
 IPP Rev:A 08-03-06 new issue DD verified by:ec  
 IPP Rev B 08.04.02 Removed polish EC verified DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6006-129		Manufactured	No			120	Each	27.0000	1	1			**

**\*D6006-129\***

Crosstube Material

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
LG	27	
23970	2	
26550	3	
34690	1	
69838	21	1

KC 12-6-20

Page 1



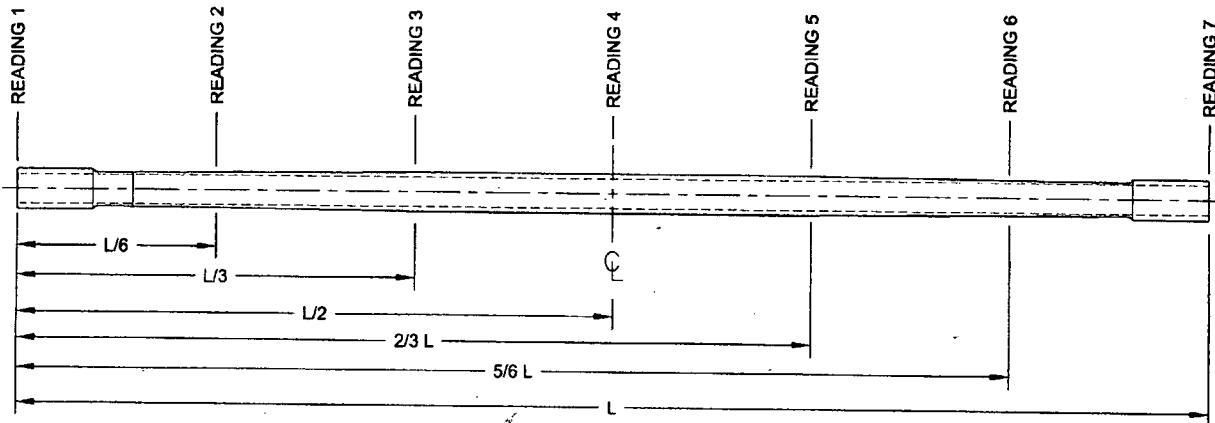
DART AEROSPACE LTD	Work Order:	85873
Description: Crosstube Assembly (205/212 High Aft)	Part Number:	D212-564-241
Inspection Dwg: D212-664-241 Rev: D		Page 1 of 2

### FIRST ARTICLE INSPECTION CHECKLIST

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	2.00	/	VERN	CNC -08
	R0.063	+/-0.010	0.63	/	R6	
	2.990	+0.005/-0.000	2.993	/	VERN	CNC -08
	5.237	+/-0.030	5.237	/		
	2.600	+0.005/-0.000	2.602	/		
	2.686	+0.005/-0.000	2.691	/		
	2.770	+0.005/-0.000	2.775	/		
	2.854	+0.005/-0.000	2.859	/		
	2.938	+0.005/-0.000	2.943	/		
	3.021	+0.005/-0.000	3.025	/		
	3.133	+0.005/-0.000	3.137	/		
	3.179	+0.005/-0.000	3.183	/		
SIDE B	0.200	+/-0.010	2.00	/	VERN	CNC -08
	R0.063	+/-0.010	0.63	/	R6	
	2.990	+0.005/-0.000	2.993	/	VERN	CNC -08
	5.237	+/-0.030	5.237	/		
	2.600	+0.005/-0.000	2.605	/		
	2.686	+0.005/-0.000	2.690	/		
	2.770	+0.005/-0.000	2.775	/		
	2.854	+0.005/-0.000	2.859	/		
	2.938	+0.005/-0.000	2.943	/		
	3.021	+0.005/-0.000	3.024	/		
	3.133	+0.005/-0.000	3.136	/		
	3.179	+0.005/-0.000	3.183	/		
	124.362	+/-0.020	124.362	/	tape	L6-25

DART AEROSPACE LTD	Work Order:	85873
Description: Crosstube Assembly (205/212 High Aft)	Part Number:	D212-664-241
Inspection Dwg: D212-664-241 Rev: D		Page 2 of 2

### WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation $\Delta w$ (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L= 0"	.380	.381	.392	.393	.012	
READING 2 L= 20"	.303	.310	.301	.297	.013	
READING 3 L= 40"	.472	.452	.464	.474	.022	
READING 4 L=	Can't measure, OK Q12/6/28					0.062"
READING 5 L= 40"	.465	.312	.459	.465	.009	
READING 6 L= 20"	.312	.465	.306	.297	.015	
READING 7 L=	.389	.383	.383	.396	.013	

#### Calibration Result

Actual Block Thickness: 100-500

Sitescan 250 Measured Thickness: 100-250

Measured by:	KC	Audited by:	<i>PLW</i>	Preliminary Approval:	
Date:	12-6-20	Date:	12-6-25		Date:

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-201)	KJ/JLM	
B	06.03.09	Tolerance for 5.237 was +/-0.001	KJ/JLM	
C	07.05.08	Dwg Rev. updated	KJ/JLM	
D	10.08.03	Dimension 124.362 was 124.36	KJ	<i>PLW</i>
E	12.06.04	Wall thickness form added	KJ	<i>PLW</i>



D

Item	Qty -241	Qty -241B	Part Number	Description
1	X		D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
2		X	D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)
3	1	1	D6006-129	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	4	4	MS21920-28	CLAMP (OR MS21920-30)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6006-129  
FINISHED LENGTH = 124.362±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF  
USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-241 = 44.2 lbs (PER IIN-D212-664)  
D212-664-241B = 44.2 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING  
IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE  
OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS  
AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1  
SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE  
SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE  
SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR  
DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND  
MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT  
HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. ES873 MLJ

12/06/18

UNDER REVIEW  
01/06/13

DEO ATTACHED

RELEASED  
2009-10-29  
MM

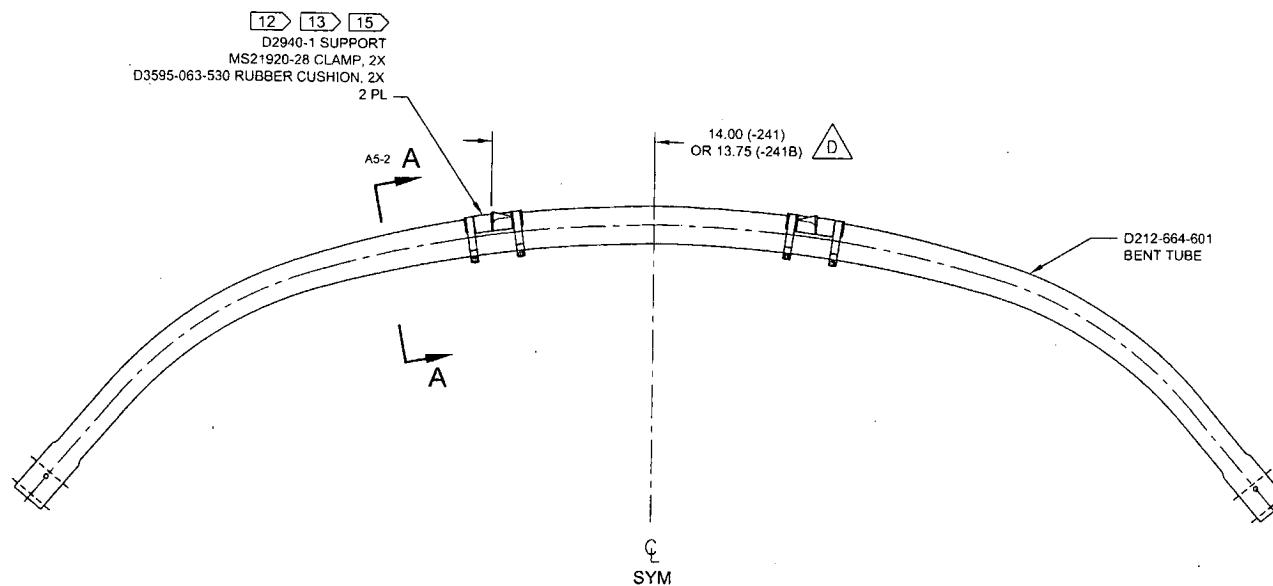
D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -241B (ZN D4-2, B4-2); REMOVED REF & ADD TOLERANCES (ZN D8-3 & C4-3, C6-3 & A8-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN	<u>PH</u>	DART AEROSPACE LTD	
DRAWN	<u>RF</u>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<u>PP</u>	DRAWING NO.	REV. D
MFG. APPR.	<u>DS</u>	D212-664-241	SHEET 1 OF 4
APPROVED	<u>MM</u>	TITLE	SCALE
DE APPR.	<u>MM</u>	CROSSTUBE ASS'Y (205/212 HI AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2000 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY OTHER PURPOSE OR DISCLOSED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



8 7 6 5 4 3 2 1

D

D



C

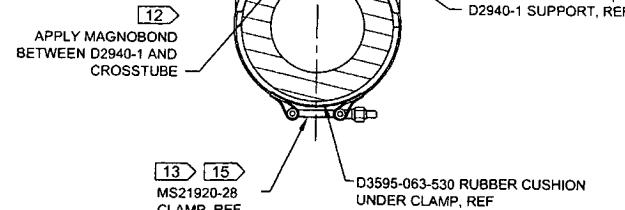
C

B

B

A

A



D212-664-241/241B  
ASSEMBLY DETAIL

C

GCW#(1-614)  
11.07.26

UNDER REVIEW

07/06/13

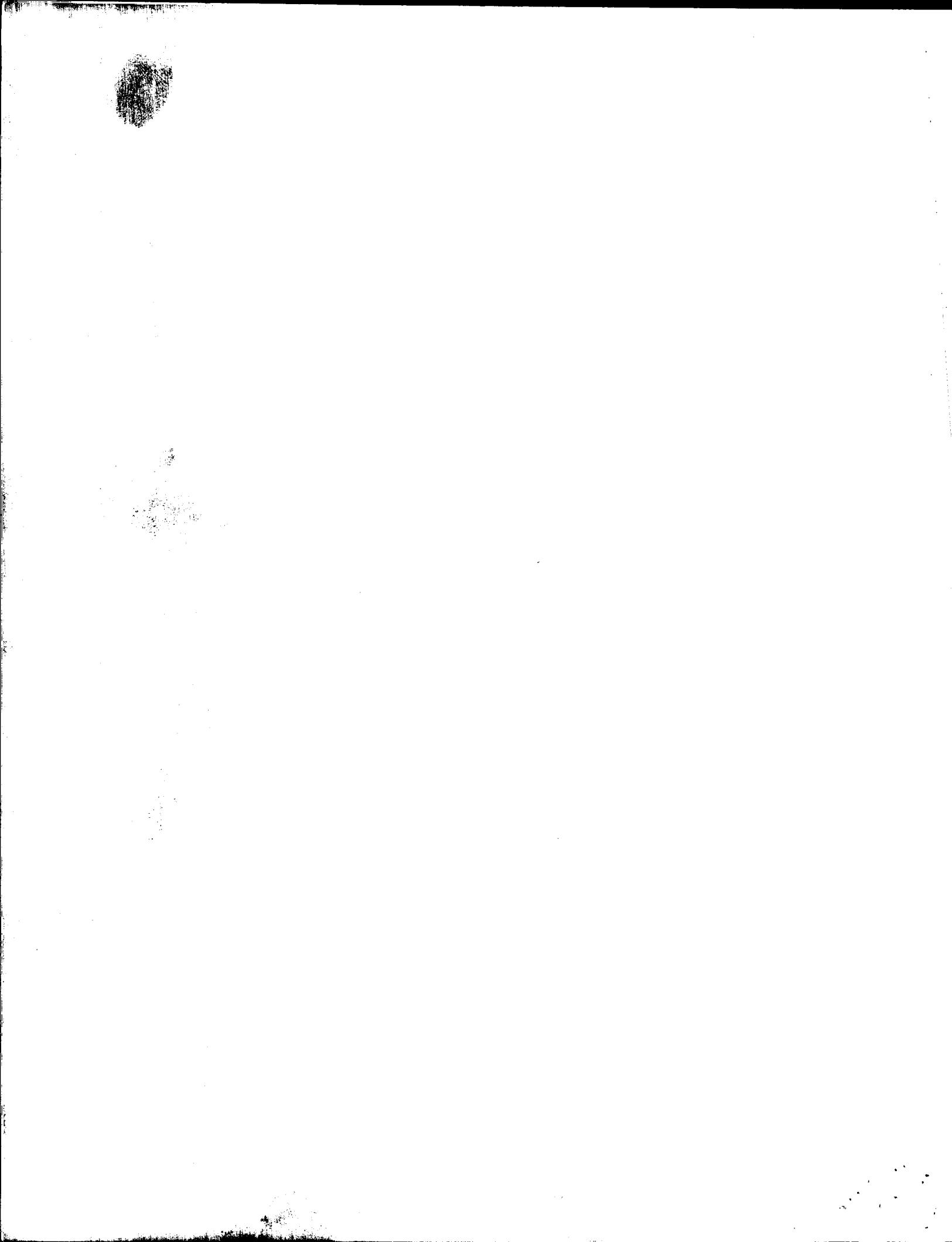
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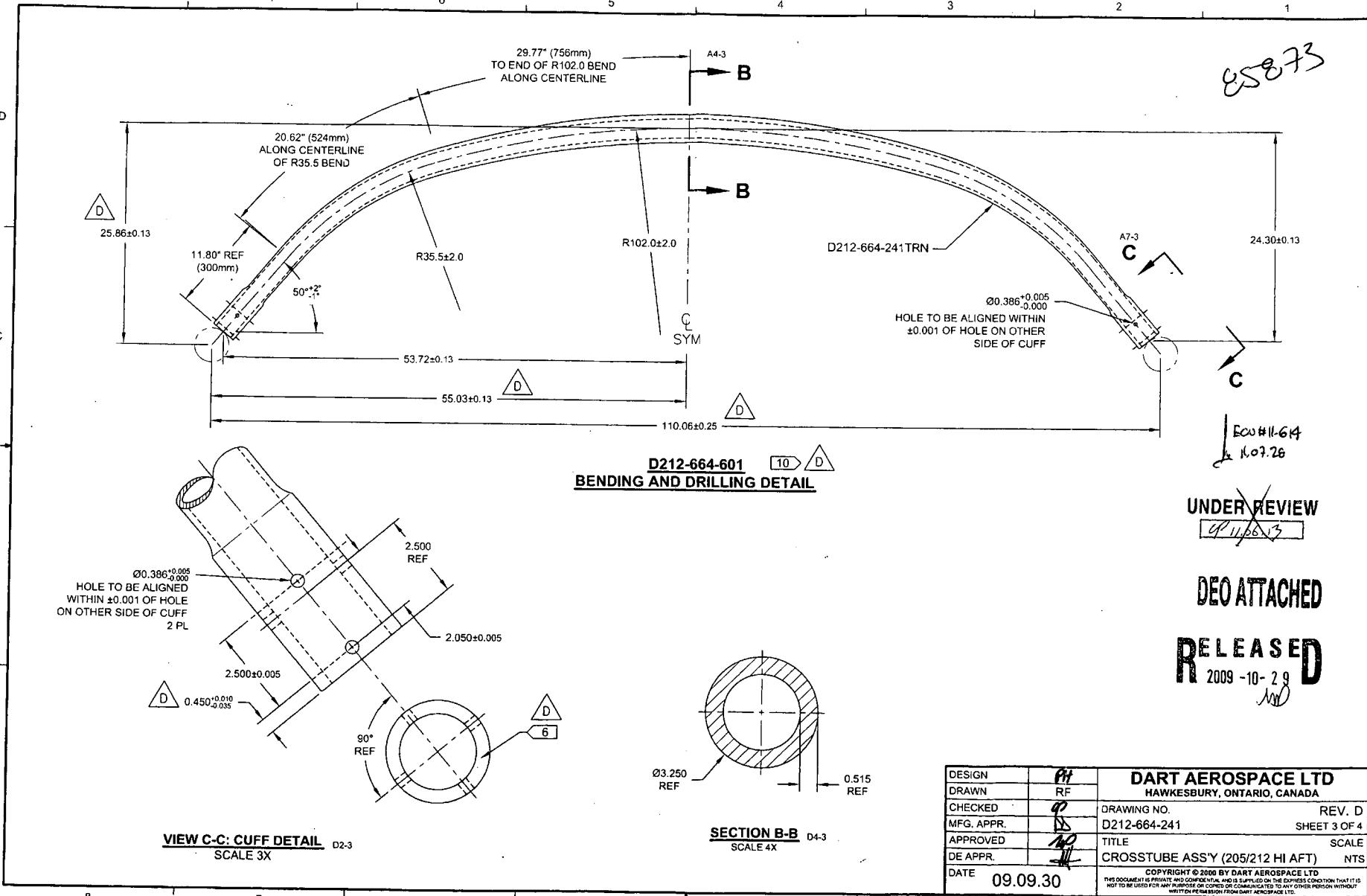
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2009-10-29  
*MW*

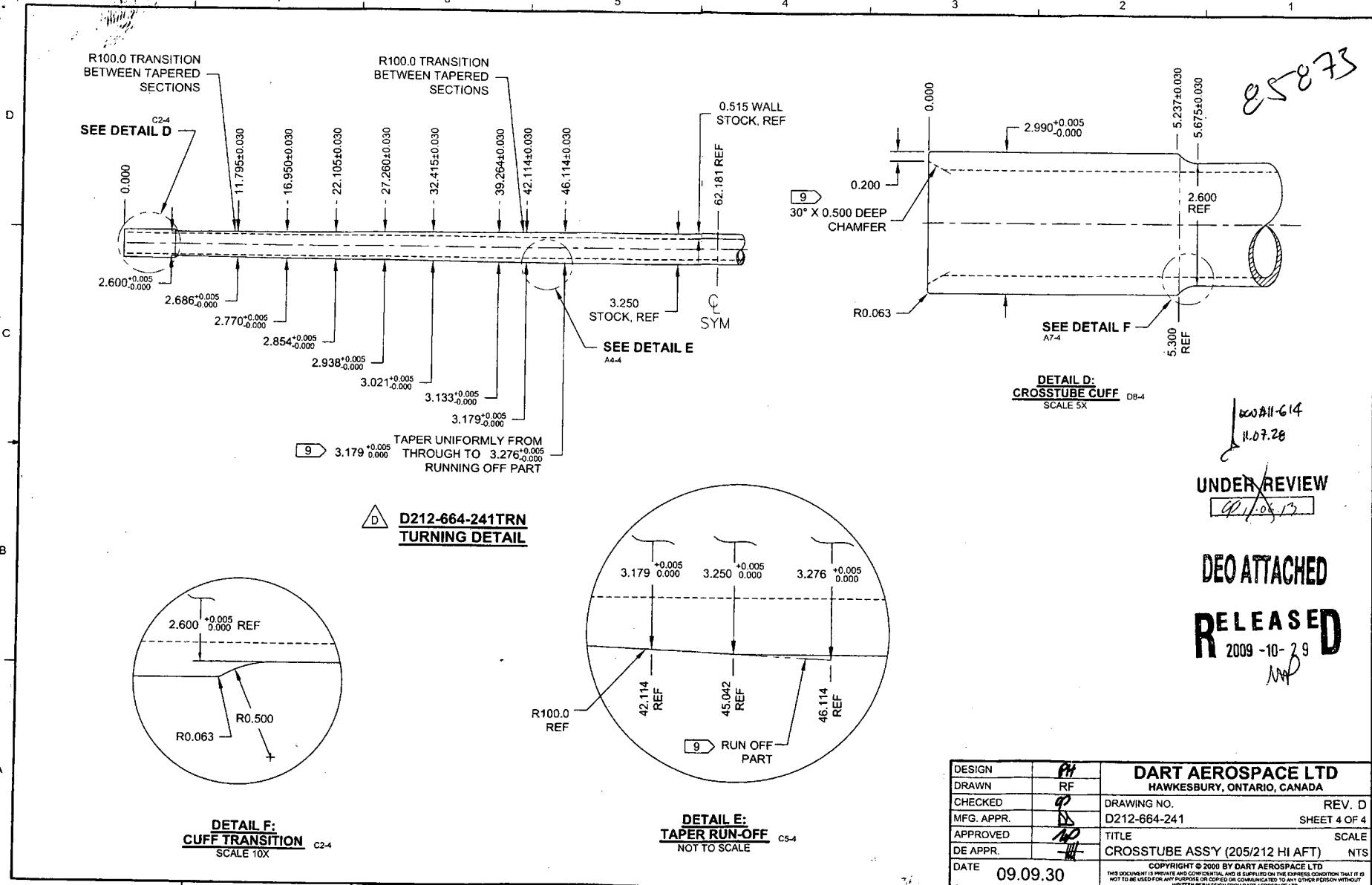
8 7 6 5 4 3 2 1

SECTION A-A D6-2  
SCALE 4X

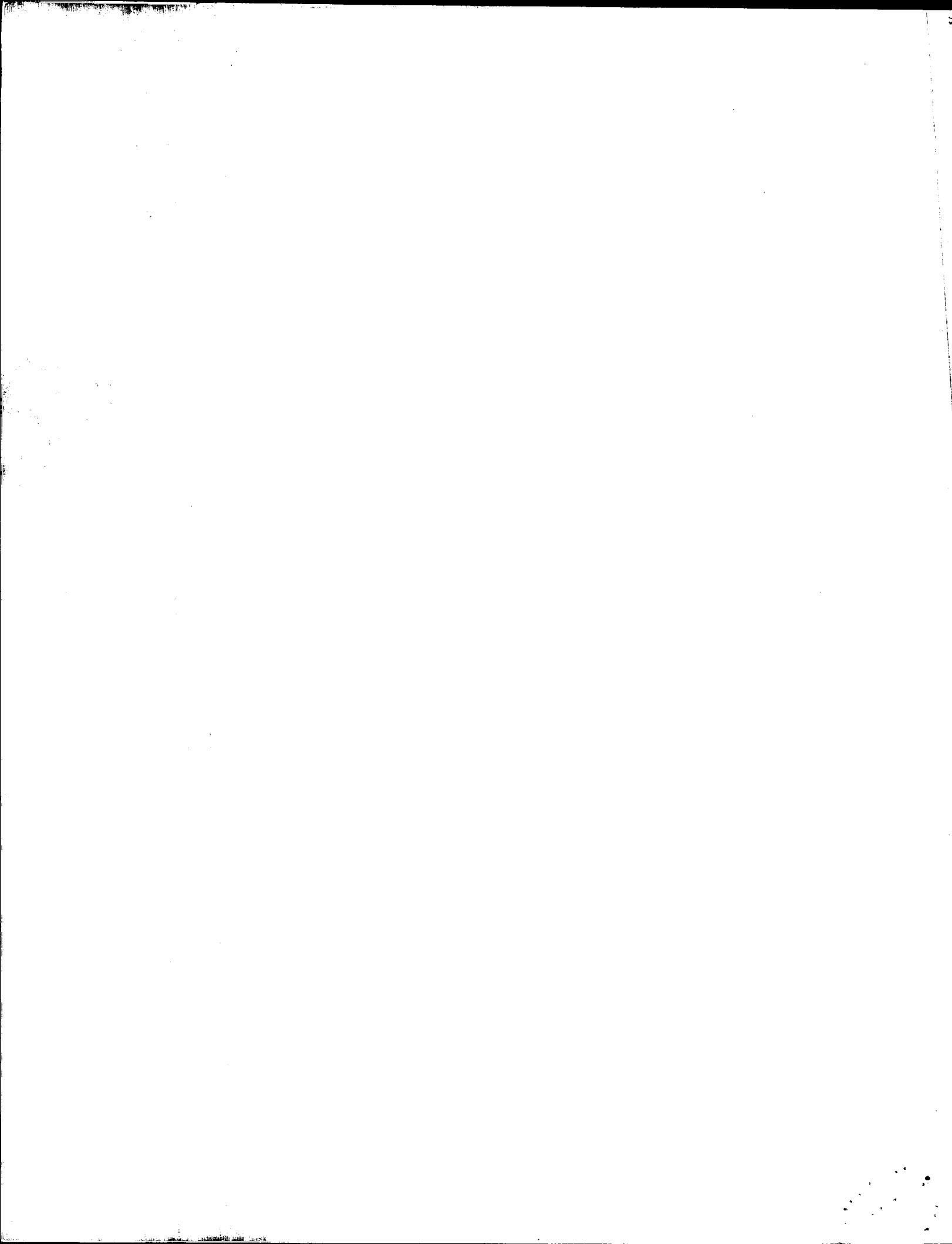
DESIGN	PH	DART AEROSPACE LTD
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA
CHECKED	PP	DRAWING NO.
MFG. APPR.	DS	D212-664-241
APPROVED	AP	REV. D
DE APPR.	AP	SHEET 2 OF 4
DATE	09.09.30	TITLE
		CROSSTUBE ASS'Y (205/212 HI AFT) NTS
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DESIGN	PH	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	99	DRAWING NO.	REV. D
MFG. APPR.	DS	D212-664-241	SHEET 4 OF 4
APPROVED	100	TITLE	SCALE
DE APPR.	100	CROSSTUBE ASSY (205/212 HI AFT) NTS	
DATE	09.09.30	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT	



85873

DRAWING NO. D212-664-241	TITLE CROSSTUBE ASSY (205/212 HI AFT)	REV. D	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D212-664-241-D-1	SHEET NO. SHEET 1 OF 2	SCALE NTS
DRAWN 11.04.07	CHECKED 11.04.11	MFG. APPR. 11.04.12	APPROVED 11.04.12	DE APPR. 11.04.12		
DATE 11.04.07	DATE 11.04.11	DATE 11.04.12	DATE 11.04.12	DATE 11.04.12	DATE 11.04.12	

PURPOSE:

ADD AN INSPECTION WINDOW TO UNDERSIDE OF CROSSTUBE.

CHANGE:

NOTES 2 OF SHEET 1 IS AMENDED AS FOLLOWS:

IS:

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
 MASK UNDERSIDE OF CROSSTUBE AS SHOWN (HATCHED AREA) AND  
 PAINT OUTSIDE PER DART QSI 005 4.2  
 REMOVE MASKING AND APPLY CLEAR COAT

WAS:

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
 PAINT OUTSIDE PER DART QSI 005 4.2

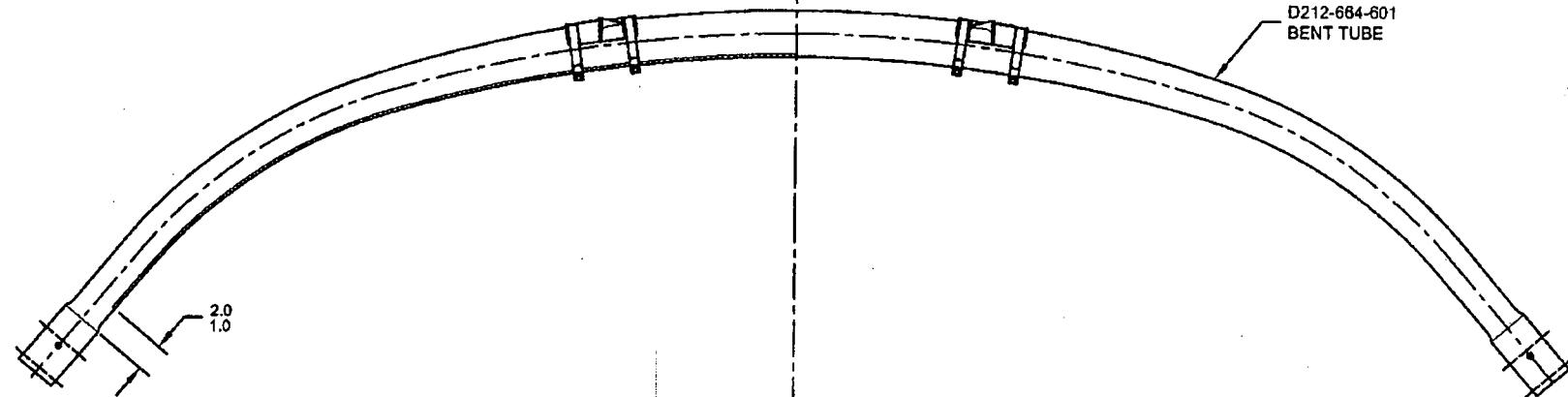
RELEASED  
2011-04-18UNDER REVIEW  
11.06.13  
BCNHI-G14  
11.07.28

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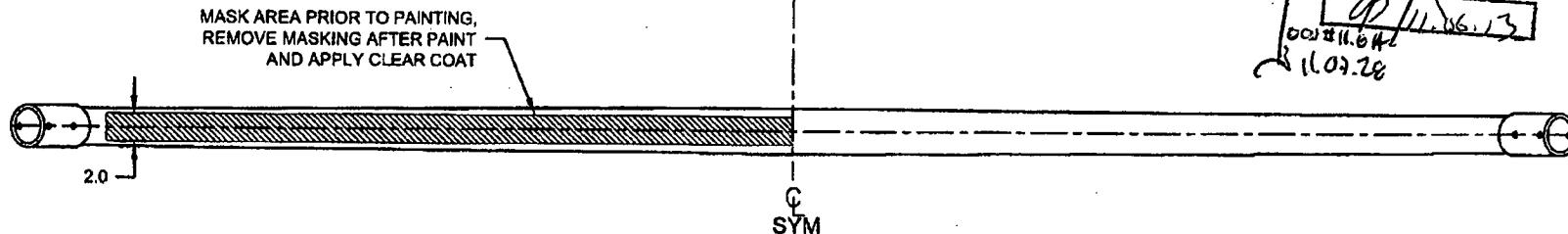
DRAWING NO. D212-664-241	TITLE CROSSTUBE ASSY (205/212 HI AFT)	REV. D	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D212-664-241-D-1	SHEET NO. SHEET 2 OF 2	SCALE NTS
DRAWN DATE 11.04.07	CHECKED DATE 11.04.11	MFG. APPR. <i>CP</i> DATE 11.04.12	APPROVED <i>MD</i> DATE 11/04/12	DE APPR. <i>MD</i> DATE 11.04.12		

IS:

WAS:



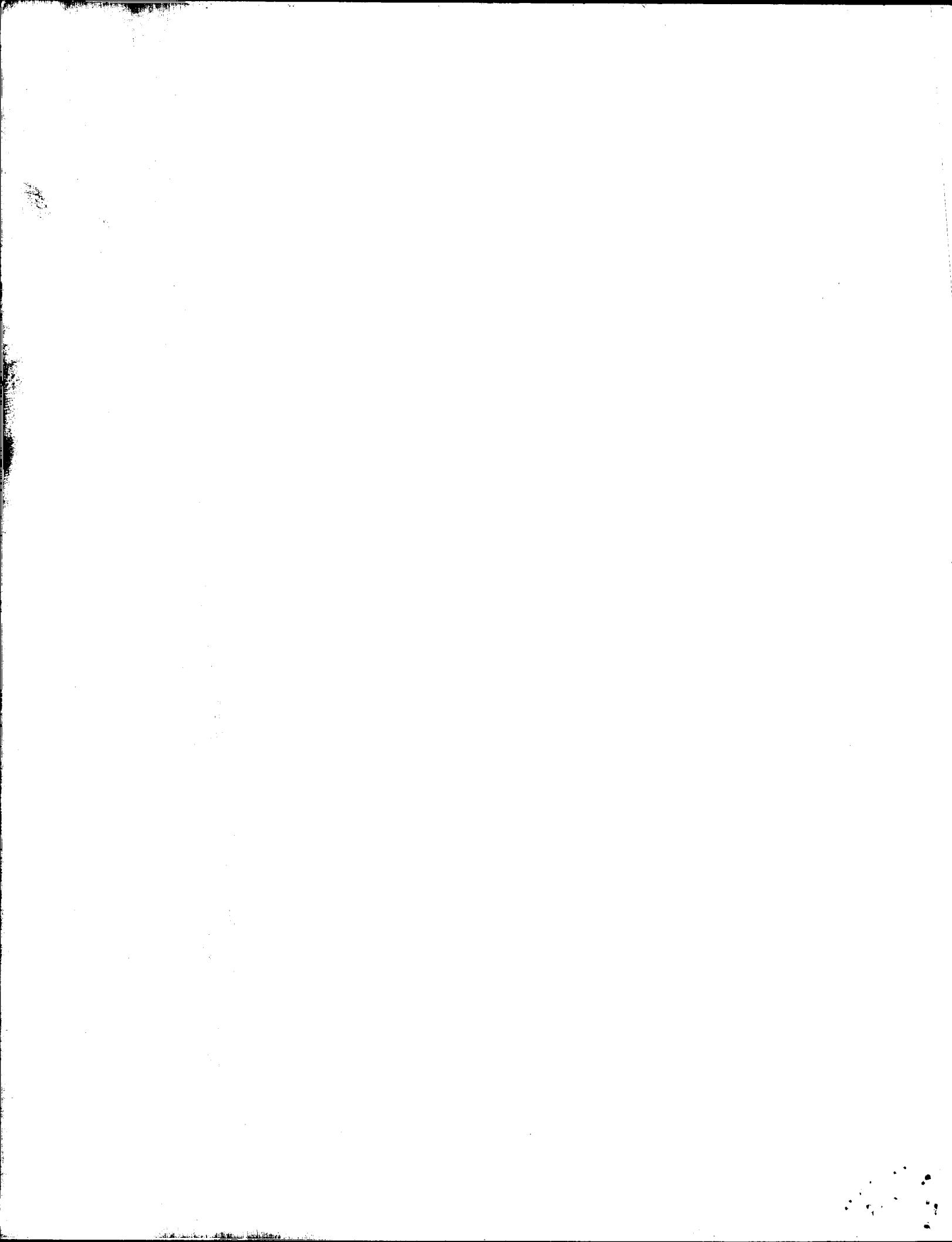
**D212-664-241/241B**  
**ASSEMBLY DETAIL**



**RELEASED**  
2011-04-18 *MD*

**UNDER REVIEW**

*CP 11.06.13*  
001 #11.04.13  
11.07.28



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DRAWING NO. D212-664-241	TITLE CROSSTUBE ASS'Y (205/212 HI AFT)	REV. D	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D212-664-241-D-2	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>90</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>BS</i>	APPROVED <i>WJ</i>	DE APPR. <i>WJ</i>		
DATE 11.07.15	DATE 11.07.20	DATE 11.07.21	DATE 11.07.21	DATE 11.07.21	DATE 11.07.21	

**PURPOSE:**

REPLACE MAGNOBOND WITH PROSEAL.

**CHANGE:****IS:**

Item	Qty -241	Qty -241B	Part Number	Description
7	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

**WAS:**

7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
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NOTE 12 &amp; 15, SHEET 1 IS AMENDED AS FOLLOWS:

**IS:**

12) TO INSTALL D2940-1 SUPPORT: ABRADE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.

15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

**WAS:**

12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.

15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED  
2011-07-28  
WJ



D6006-129

B69838

## EXTRUSION INSPECTION SHEET

## ULTRA SONIC MEASUREMENTS

TUBE #	TOTAL LENGTH	DIA two readings	INSIDE DIA	wall thickness measured w/vern	Straitness at 12"	Rockwell Reading	LOCATION on tube	R1	R2	R3	R4
1		3.257/3.254	2.225	6505/531	0.010	N/A	middle	513	521	502	506
2	"	3.253/3.262	2.222	525/511	0.03	N/A	middle	513	507	516	518
3	"	3.251/3.252	2.222	513/520	0.214	N/A	middle t	505	0.524	503	516
4		3.258/3.254	2.225	499/534	0.019	N/A	middle	516	516	517	513
5	"	3.254/3.253	2.224	509/522	0.05	N/A	middle	517	517	508	508
6	"	3.251/3.251	2.221	496/531	0.016	N/A	middle	506	503	529	523
7	"	3.256/3.255	2.226	509/522	0.015	N/A	middle	521	517	508	518
8	"	3.257/3.257	2.222	510/519	0.017	N/A	middle	527	509	511	521
9		3.255/3.254	2.222	565/570	0.013	N/A	middle	523	518	514	508
10		3.254/3.253	2.221	509/523	0.014	N/A	middle 5	516	513	517	516
11						N/A	middle t				
12						N/A	middle	"			
13						N/A	middle	"			
14						N/A	middle	"			
15						N/A	middle	"			

PART # D6006-129

P/O# 14138

BATCH # 69383

Notes:

5/2/04/03

